

# COVID-19

## STANDARD OPERATING PROCEDURES

This is a living document and will be updated as necessary

The decisions made in this document are based on national guidance from:

- Public Health England
- The Chief Dental Officer
- Faculty of General Dental Practice (UK)
- British Dental Association
- Centre for Evidence Based Medicine
- UK government



# Cavendish House Dental Care

## CONTENTS

Introduction & Background	4
Reducing risks	5
Concerns	5
Standard Operating Procedures (SOP)	6
Pre-practice attendance preparation	6
Patient practice attendance protocol	7
People numbers in surgery	7
Colleague preparatory measures	8
Clinical protocols	9
Aerosol reduction measures	10
Patient PPE for non-AGP and AGP	10
Personal Protective Equipment (PPE)	10
Workwear management	12
Donning and doffing	12
Decontamination process	12
Cleaning of communal areas for staff members	12
Staged dental care delivery	13
Stage 1	14
Stage 2	16
Stage 3	18
Aerosol Generating Procedures (AGP)	20
APPENDIX I - Categories of patients and vulnerable groups	22
APPENDIX II - Risk assessment of staff	24
APPENDIX III – The practice environment	26



## Cavendish House Dental Care

APPENDIX IV – Triage & screening of patients	26
APPENDIX V – Patient attendance protocol	28
APPENDIX VI – Surgery preparation before an AGP	29
APPENDIX VII – PPE requirements	30
APPENDIX VIII – Air Purification	31
APPENDIX IX – Staff training	33
APPENDIX X - Face Fit testing	33
APPENDIX XI – Donning and Doffing policy	35
APPENDIX XII - Disinfection Procedure post non-AGP	37
APPENDIX XIII – Disinfection Procedure post AGP	38
APPENDIX XIV – Workwear policy	40
APPENDIX XV – Legionella Disease Prevention	41
APPENDIX XVI – Risk Assessment	43
APPENDIX XVII – Evidence base for protocols	42



# Cavendish House Dental Care

## Introduction

The following document details the plans for the dental treatment of patients in light of the 2020 COVID-19 pandemic. These plans will ensure that Cavendish House Dental Care is able to safely and confidently care for our patients.

The protocols in this document aim to dispel any staff member or patient concerns on safety using sound, evidence-based practice and consideration of national guidelines.

Implementing infection control protocols for the safety and welfare of patients and staff members has always been standard procedure at Cavendish House. In the current crisis situation, the practice has implemented new procedures and protocols.

## Background

In late 2019 a new strain of coronavirus was identified, which has been named SARS-CoV-2. This virus is responsible for Coronavirus Disease 2019 (COVID-19), which was declared a pandemic on 12<sup>th</sup> March 2020.

Clinical symptoms range from a mild-to-moderate influenza like illness, to pneumonia or severe respiratory infection and death. Loss of the sense of smell and/or taste is now recognised as an additional symptom.

There is no current vaccine to prevent COVID-19.

We will be following the most updated general national guidance (<https://www.gov.uk/coronavirus>) by:

1. Issuing stay at home guidance for households with possible COVID-19
2. Social distancing
3. Shielding vulnerable groups of patients ([APPENDIX I](#))
4. Shielding vulnerable groups of colleagues ([APPENDIX I](#))

The COVID-19 pandemic has altered healthcare provision in the United Kingdom and globally. With the exception of the Urgent Dental Care Centres (UDCs), most dental practices in England initially closed for face-to-face patient contact and routine dentistry.

Cavendish House has invested in new equipment and PPE to ensure that patients are treated safely, and staff are able to work in a safe environment in accordance with Care Quality Commission (CQC) regulations.

These Standard Operating Protocols (SOP) will be continually monitored and updated as necessary. The SOP is a living document. Dates for the initiation of each opening Stage are flexible, depending on government advice and the pandemic situation.



## Cavendish House Dental Care

### Reducing risks

The two main increased risks in dentistry with the COVID-19 pandemic are due to the fact that COVID-19 is a transmissible virus and these risks are:

1. Close physical contact (within 2 metres) of Dentists, Dental Care Professionals (DCP), reception staff, administration staff and patients, as well as contact between patients inside the Practice.
2. Potential for increased risk of contact with droplets via surface contamination and aerosol as many dental procedures are aerosol generating. These are referred to as Aerosol Generating Procedures (AGP) or Aerosol Generating Exposures (AEG).

The Cavendish House Dental Care Standard Operating Procedures' (SOP) main focus is to reduce these risks by:

1. Reducing person to person contacts
2. Reducing the risk of transmission via droplet and aerosol
  - The evidence supporting the risk of transmission for some of these routes is scientifically uncertain but it is currently sensible to believe that transmission via these routes is likely.
  - The main methods by which we can reduce the rate of transmission of droplets and aerosol are:
    - a. **Reduction of production:** reducing the number of AGP procedures, pre-medication oral rinses to reduce viral load, high volume suction, rubber dam, etc.
    - b. **Reduction of transmission of viral load by aerosol:** e.g. air purification, ventilation, thorough cleaning of surfaces etc
    - c. **Reduction of transmission via contact:** e.g. correct use of PPE and a new patient journey.
3. Risk assessing every AGE/AGP before commencing treatment ([APPENDIX XVI](#)). The risk assessment is recorded. The required PPE, risk mitigating factors and room fallow time will be dependent on the current guidelines and will consider:
  - a. The COVID-19 Alert Level (1-5)
  - b. The Patient's Risk Assessment (patient health, BAME status etc)
  - c. The Procedure AGE/AGP Risk Assessment (Low, Medium or High)
  - d. The Mitigating Factors employed before, during and after the patient attendance.

### Concerns

As guidance is evolving fast this is a living document and content will be updated as required.

Safety for all is based on the evidence at hand. At this point in time, real scientific evidence relating to actual risks to dental teams is sparse and often anecdotal. Potential exposure to the virus is high due to the nature of the profession, but rates of infection of dental staff prior to lockdown have been shown to



## Cavendish House Dental Care

be below national average and there is no, or limited, evidence of transmission from patients to the dental workforce or vice versa.

Recent advice distilled from an assessment of the various available return to work procedures from around the globe, UK evidence, and communications from the discussion webinar hosted by the Faculty of Dental Surgery of the Royal College of Surgeons of Edinburgh is suggestive that the evidence for individual practical procedural changes is limited, especially with regard to FFP2/3 respirators and air filtration systems, and that a focus on an overall practice-wide approach to achieve a general reduction in viral load may be of better benefit. The Practice procedures consider each element as a layer in the overall limitation of risk.

### Standard Operating Procedures (SOP)

The decisions made in the SOP are based on the national guidance across the four home nations and upon scientific evidence, especially that published by the Centre for Evidence Based Medicine (CEBM).

The pandemic strategies of other countries may be different to those of the UK and this SOP has been designed to fit with the current phasing of our national approach. Countries such as Germany did not cease dental care at all and many European countries have now reopened dental services. Countries such as the Republic of Ireland have resumed dental services with limited changes to normal practice PPE and cross infection procedures.

Dentistry has never been “risk free” but our primary aim is to put patients and staff members into an environment where they can feel as safe to practice as is reasonably practicable.

### Pre-Practice Attendance Preparation:

#### Pre-assessment of colleagues: [APPENDIX II](#)

- Risk assessment of all staff members prior to work to ensure that they are available to return to work, do not fall into vulnerable worker groups, are not living with anybody with confirmed or suspected COVID-19 and are asymptomatic from COVID-19 symptoms

#### Pre-preparation of the Practice Environment: [APPENDIX III](#)

- Most dental treatment will require closer contact than the recommended 2 metres, however social distancing measures should be applied as far as possible throughout the Practice.
- Physical distancing measures will need to be implemented within the practice environment in advance of accepting patients and visitors.



## Cavendish House Dental Care

### **Management of the Appointment Diary:**

- The appointment diary will need to be managed in a different way to allow for social distancing, enhanced disinfection procedures, and allocation of AGPs.
- Zoning and surgery rotation may need to be implemented.

### **Screening and Triaging of Patients: [APPENDIX IV](#)**

All patients must be screened and triaged remotely by telephone and/or video link before presentation at the practice.:

- To risk assess patients for their possible COVID-19 history and symptoms
- Identify vulnerable/shielding patient groups and manage the diary accordingly.
- To confirm if the patient requires a clinical triage call before the appointment.
- To confirm any medical history changes.
- To confirm contact details, email and phone numbers.
- To clarify and prepare patients for the altered patient journey at their appointment.

This needs to be reviewed again, ideally 24 hours or less before the scheduled appointment.

Clinical triaging should be performed to confirm the purpose of the appointment and allow optimal surgery preparation.

### **Patient Practice Attendance Protocol: [APPENDIX V](#)**

- Alterations will be necessary to the usual attendance protocols for patients and visitors
- This will need to be communicated to the patient and any visitors during the pre-attendance screening phase

### **People numbers in Surgery:**

- All procedures should be carried out with a single patient and **only** staff members who are needed to undertake the procedure present in the room with the doors **closed**. Windows must be closed if there is an air purification system in place and is turned on.
- If an AGP is being undertaken no-one should enter the room. Door signage will warn anybody outside the room that a AGP is underway and not to enter.



## Cavendish House Dental Care

### Colleague preparatory measures:

#### Hand and respiratory hygiene

All members of the Cavendish House Dental Care team, along with patients and visitors, should decontaminate their hands using alcohol based hand rub (ABHR) when entering and leaving the practice. This should be followed by hand washing at the nearest available facility. ABHR facilities are located in the patient waiting area and on the upstairs landing. These facilities are clearly signed.

#### Hand hygiene

For staff members, hand hygiene (washing with soap and water and/or ABHR) must be carried out at all of the following times:

- Immediately before every episode of direct patient care, to include forearms
- Prior to donning PPE
- After any activity or contact that potentially results in hands becoming contaminated
- After the removal of personal protective equipment (PPE)
- After equipment decontamination
- After waste handling.
- At the end of every clinical session, to include forearms

#### Respiratory and Cough Hygiene

All staff members and patients and visitors should follow good respiratory and cough hygiene:

“Catch it, bin in, kill it”

#### Pre-preparation of the Surgery Environment: [APPENDIX VI](#)

- It is recognised that dental treatment will require closer contact than the recommended 2 metres, however social distancing should be applied as far as possible throughout the process.
- Physical measures will need to be implemented to prepare the surgery environment in the advance of accepting patients.
- Treatments must be planned in advance so as to maximise surgery safely and efficiency especially with regard to enhanced PPE preparation.



## Cavendish House Dental Care

### Clinical Protocols

#### Standard Infection Control Precautions: (SICPs)

- Standard national infection control precautions (SICPs) should be adhered to at all times.
- The Cavendish House Dental Care COVID-19 SOPs builds upon these; they do not replace them.

#### Enhanced Transmission-Based Precautions: (ETBPs)

- These are applied in the document as SICPs but are considered by Cavendish House Dental Care not to be sufficient alone during this pandemic
- **Contact Precautions** are used to prevent and control infection transmission via direct contact or indirectly from the immediate environment. This is the most common route of transmission.
- **Airborne precautions** are used to prevent and control infection transmission via aerosol (<5µm) from the respiratory tract and saliva of the patient directly onto a mucosal surface or conjunctivae of the dental staff members or next patient.
- **Droplet precautions** are used to prevent and control infection transmission over short distances via droplets (>5 µm) from the patient to the mucosal surface or conjunctivae of the dental team or next patient.

#### Definition of a Treatment Session

- A treatment session is the length of time from the start of a clinical session until the need to remove workwear, to eat food, or after 4.5 hours, whichever is the soonest.
- Examples are 9am-1.30pm and 2pm-6.30 pm.
- The types of treatment session will also dictate the type of PPE that will be required

#### Infection Prevention Control Procedures

- Reduction in production of AGP.
- Reduction in number of social contacts – social distancing.
- Reduction in contact transmission – decontamination and appropriate PPE.
- Reduction in droplet transmission – appropriate PPE.
- Reduction in aerosol transmission – air circulation, open windows, air purification ([APPENDIX VIII](#)), appropriate PPE.



## Cavendish House Dental Care

### **Aerosol reduction measure**

- Alteration in working practice to reduce numbers of AGPs
- Premedication rinse with 1.5% hydrogen peroxide
- Routine use of rubber dam unless not practicable
- Avoid patients rinsing or spitting into sinks (apart from for the premedication rinse)

### **Patient PPE for non-AGP and AGP**

- Well-fitting safety goggles, to be disinfected and alternating pair per patient as first pair are being disinfected.

### **Personal Protective Equipment (PPE): APPENDIX VII**

Many dental procedures may create an AGP.

If staff members are confident that a non-AGP can be carried out, then the standard Cavendish House Dental Care PPE is acceptable.

For a AGP, Enhanced Cavendish House Dental Care COVID-19 PPE is applicable.

Please see the following table for clarification.:



## Cavendish House Dental Care

	Reception No clinical treatment	Standard PPE Dental Surgery Non AGP	Enhanced PPE Dental Surgery Treatments with AGP	Standard PPE Decon Room
Good Hand Hygiene	Yes	Yes	Yes	Yes
Disposable Gloves	No	Yes	Yes	Yes
Disposable Plastic Apron	No	Yes	No	Yes
Disposable Fluid Resistant Gown	No	No	Yes	No
Disposable Fluid Resistant Cap	No	No	Yes	No
Shoe covers	No	No	Yes	No
Fluid Resistant Surgical Mask (FRSM)	No*	Yes, single use per patient	No	No
FFP2 or FFP2 Mask	No	No	Yes – FFP2/3 single use or half face P3 reusable	No
Visor	No	Yes**	Yes**	Yes**

\*Reception is protected with acrylic screening at a height of 1m above the counter top and an acrylic partition between the receptionists. FRSM are available for staff use. A dedicated hand sanitiser is positioned on the wall in the reception area for reception staff.

\*\*Regular prescription glasses or loupes are not considered adequate eye protection. They should be worn under a full face visor (forehead to chin)



## Cavendish House Dental Care

### **Workwear Management: APPENDIX XIV**

It is important that all dental staff members wear appropriate clothing at work and follow the guidance for laundering

- Workwear should not be worn to the practice or outside the practice after use.
- Staff members must keep clinical and outside clothing separated.
- It is expected that workwear will be the standard scrubs or trousers and tunics.
- The transportation, management and hygiene of workwear should follow the workwear policy.

### **Donning and Doffing: APPENDIX XI**

The wearing of Enhanced Cavendish House Dental Care PPE should be Donned (put on) and Doffed (taken off) in line with the Donning and Doffing protocol.

FFP2/P3 masks should be removed outside the dental surgery where AGPs have been undertaken in line with doffing protocol.

### **Decontamination Process:**

The decontamination process after non-AGP should follow normal national cross infection control guidelines, reflecting the pre Covid-19 Cavendish House Dental Care policy ([APPENDIX XII](#))

The decontamination process after AGP should follow the Cavendish House Dental Care Decontamination AGP policy ([APPENDIX XIII](#))

Part of the decontamination process may involve air purification using the installed air purification units to reduce surgery downtime. If there is no air purification operating then the fallow time is 30 minutes following an AGP, with open windows.

### **Cleaning of Communal areas for staff members:**

Modified cleaning procedures will be necessary for cleaning of communal areas regarding products used and processes followed.

Areas should be cleaned with detergent and disinfectant unless there has been a bloody/body fluid spill which should be dealt with immediately using the Spillage Kit.



Cavendish House Dental Care

## STAGED DENTAL CARE DELIVERY

The practice will stage the re-opening of dental healthcare in light of the COVID-19 crisis.

The dates of commencement for each stage are flexible, dependent on government advice.

We are faced with an unprecedented challenge in the dental profession. As dentist care professionals, our primary aim is to help and treat patients in need.

We have extensively researched best practice and clean air technologies to create what we believe is a Gold Standard protocol for Cavendish House to open safely during this COVID-19 pandemic and beyond. The protocol delivers an extremely low risk of cross infection to patients and staff.

The anticipated commencement dates for each stage are:

STAGE 1 (Emergency and urgent care, no AGP):	25 <sup>th</sup> May 2020
STAGE2 (Emergency & urgent care with AGP):	1 <sup>st</sup> June 2020
STAGE 3 (full services under the 'new normal'):	15 <sup>th</sup> June 2020



Cavendish House Dental Care

# COVID PROTOCOLS: STAGE 1

## PATIENT JOURNEY AND STANDARD OPERATING PROTOCOLS

The following section details the plans for the dental treatment of patients following the COVID-19 pandemic, whilst the practice is in [Stage 1](#). These plans will ensure that Cavendish House Dental Care is able to safely and confidently care for our patients. The Practice will operate a closed door policy (no walk-ins).

During Stage 1 the practice will provide emergency and urgent care for cases that **do not** involve an aerosol generating procedure (AGP).

The protocols in this document aim to dispel staff member or patient concerns on safety using sound, evidence-based practice.

Implementing infection control protocols for the safety and welfare of patients and staff has always been standard procedure at Cavendish House. This document explains the enhanced Stage 1 procedures.

The following patient journey illustrates the protocol and procedures:

### 1. TELEPHONE TRIAGE

When a patient telephones the practice, a dentist will discuss the enquiry directly with the patient. If the patient has emailed the practice a dentist will call the patient back. A COVID-19 risk assessment is carried out in accordance with current government guidelines.

The use of video consultation using secure and encrypted software may follow the telephone triage.

### 2. PATIENT ATTENDANCE

If the dentist deems that the patient should attend the practice, a timed appointment will be given. The patient is asked to complete a Medical History form online, eliminating the need for patients to share pens and handle paper forms in the practice. If the patient does not have Internet access the Medical History will be taken over the telephone and confirmed by the dentist upon attendance in the surgery. The patient will be asked to stay in their car and telephone the practice upon arrival. Once the dentist is ready to see the patient the patient will be sent a text message and asked to enter the premises.

Only one patient at a time will be allowed in the premises.

The patient's temperature is checked with a no-contact infrared sensor. The temperature should be below 37.5 degrees Celsius.



## Cavendish House Dental Care

Upon entering the premises, the patient will be escorted to the surgery. The escorting staff member will be wearing appropriate PPE.

### 3. SURGERY PROTOCOLS

All surfaces in the dental surgery will be kept clear.

Dentist and nurse will wear appropriate PPF, including FRSM facemask and visor for the examination. Scrubs with a disposable apron will be worn by all clinical personnel.

Treatment provided during Stage 1 **must not** involve any Aerosol Generating Procedures (AGPs).

The scientific evidence, published in the Journal of Evidence Based Medicine and carried out by the Centre for Evidence Based Medicine<sup>(1, 2)</sup>, has shown that for non-aerosol generating procedures, standard 3-ply surgical masks (FRSM) are as effective as respirator masks.

After each patient, cleaning down of surfaces will be carried out as per HTM0105 best practice standard.

### 4. PATIENT EXIT

The patient will be asked to follow the clinical staff member to reception, keeping at a distance of 2m behind. Any payment or other administrative work will be carried out at reception, with the staff member and patient keeping at least 2m away from each other.

Only contactless or card payments will be accepted where possible.



Cavendish House Dental Care

## COVID PROTOCOLS: STAGE 2

### PATIENT JOURNEY AND STANDARD OPERATING PROTOCOLS

At [Stage 2](#) the practice will provide emergency and urgent treatment including procedures that involve an aerosol generating procedure (AGP). The Practice will operate a closed door policy (no walk-ins).

The number of patients permitted in the practice will be limited to ensure that 2m distance can be kept between all persons. The waiting area has been redesigned to allow patients to sit 2m away from each other. The waiting area can hold a maximum of 7 patients under this arrangement.

Patients must contact the practice by telephone or email. This allows the practice to control the patient numbers. There will be a sign on the outside door to advise that patients must do this, and we are unable to allow anyone into the building unless by appointment. No walk-in appointments are available

All patients will be triaged by telephone and/or video link. A COVID-19 risk assessment is carried out in accordance with current government guidelines. If appropriate, an appointment time is given.

Patients are asked not to bring anybody else into the practice with them unless that is essential (carers, parents, guardians etc).

The practice will operate a one-way system, with separate, signed entrance and exit doors.

#### 1. PATIENT ATTENDANCE

On arrival the patient will enter through the main entrance door and immediately be directed by signage to the reception. The reception is screened with acrylic screening on all sides. The screening is 1m in height, above the counter top.

If patients are queuing, floor signage directs them to keep a distance of 2m from each other.

The patient's temperature is checked if the patient is considered higher risk, with a no-contact infrared sensor. The temperature should be below 37.5 degrees Celsius.

Once the surgery is ready the patient will be called by name from the waiting area by a member of the clinical staff. The escorting staff member will be wearing appropriate PPE.

#### 2. SURGERY PROTOCOLS

All surfaces in the dental surgery will be kept clear.



## Cavendish House Dental Care

Dentist and nurse will wear appropriate PPE, including FRSM facemask and visor for the examination. Scrubs with a disposable apron will be worn by all clinical personnel.

The scientific evidence, published in the Journal of Evidence Based Medicine and carried out by the Centre for Evidence Based Medicine, has shown that for standard none-aerosol generating procedures, standard 3-ply surgical masks (FRSM) are as effective as respirator masks.

If an AGP is required, clinicians will treat the patient under the Aerosol Generating Procedures protocol. The patient will remain in the surgery whilst staff change into the Enhanced PPE for an AGP. All clinical personnel must wear:

- Full length fluid resistant gown (covering arms)
- FFP2 or half mask P3 (all personnel must be fit tested for each specific mask)
- Shoe covers (High Risk)
- Hair cap (High Risk)
- Gloves
- Full face visor

After each patient, cleaning down of surfaces will be carried out as per HTM0105 best practice standard.

The air will be fully cleared before another patient can enter the surgery. With the COVID-19 approved air purifiers this will take 15 minutes for High Risk or 10 minutes for Medium Risk. If the virus eliminating air purifiers are not operational a fallow period of 30 minutes will be required for Medium Risk and 60 minutes for High Risk, with the windows opened.

### 3. PATIENT EXIT

The patient will be directed to the acrylic screened reception after completion of their appointment.

Patients checking in will be separated from patients checking out. A distance of 2m will be kept between patients. Patients will check in on the left side of reception (side closest to the entrance door) and will check out on the right side of reception.

Only contactless or card payments will be accepted where possible.

Patients will exit through a separate, signed exit door, on the opposite side of the practice.



Cavendish House Dental Care

## COVID PROTOCOLS: STAGE 3

### PATIENT JOURNEY AND STANDARD OPERATING PROTOCOLS

At **Stage 3** the practice will resume the full range of services under the 'new normal' with COVID-19 protocols. The practice will operate a closed door policy.

The number of patients permitted in the practice may still need to be limited to ensure that 2m distance can be kept between all persons. The waiting area has been redesigned to allow patients to sit 2m away from each other. The waiting area can hold a maximum of 7 patients under this arrangement.

Patients must contact the practice by telephone or email. This allows the practice to control the patient numbers.

All patients will be triaged by telephone and/or video link. A With the COVID-19 risk assessment is carried out in accordance with current government guidelines. If appropriate, an appointment time is given.

Patients are asked not to bring anybody else into the practice with them unless that is essential (carers, parents, guardians etc).

The practice will operate a one-way system, with separate signed entrance and exit doors.

#### 1. PATIENT ATTENDANCE

On arrival the patient will enter through the main entrance door and immediately be directed by signage to the reception. The reception is screened with acrylic screening on all sides. The screening is 1m in height, above the countertop.

If patients are queuing, signage directs them to keep a distance of 2m from each other.

The patient's temperature is checked with a no-contact infrared sensor if the patient is considered high risk. The temperature should be below 37.5 degrees Celsius.

Once the surgery is ready the patient will be called by name from the waiting area by a member of the clinical staff. The escorting staff member will be wearing appropriate PPE.

#### 2. SURGERY PROTOCOLS

All surfaces in the dental surgery will be kept clear.



## Cavendish House Dental Care

Dentist and nurse will wear appropriate PPE, including FRSM and visor for the examination. Scrubs with a disposable apron will be worn by all clinical personnel.

The scientific evidence, published in the Journal of Evidence Based Medicine and carried out by the Centre for Evidence Based Medicine, has shown that for standard none-aerosol generating procedures, standard 3-ply surgical masks are as effective as respirator masks.

If an AGP is required, clinicians will treat the patient under the Aerosol Generating Procedures protocol. All clinical personnel must wear:

- Full length fluid resistant gown (covering arms)
- FFP2 or half mask P3 (all personnel must be fit tested for each specific mask)
- Shoe covers (for High Risk)
- Hair cap (for High Risk)
- Gloves
- Full face visor

After each AGP patient, cleaning down of surfaces will be carried out in accordance with the AGP Protocols ([APPENDIX XIII](#))

The air will be fully cleared before another patient can enter the surgery. With the COVID-19 approved air purifiers this will take 15 minutes for High Risk or 10 minutes for Medium Risk. If the virus eliminating air purifiers are not operational a fallow period of 30 minutes will be required for Medium Risk and 60 minutes for High Risk, with the windows opened.

### 3. PATIENT EXIT

The patient will be directed to the acrylic screened reception after completion of their appointment.

Patients checking in will be separated from patients checking out. A distance of 2m will be kept between patients. Patients will check in on the left side of reception (side closest to the entrance door) and will check out on the right side of reception.

Only contactless or card payments will be accepted where possible

Patients will exit through a separate exit door, on the opposite side of the practice.



# AEROSOL GENERATING PROCEDURES

## COVID-19 STANDARD OPERATING PROTOCOLS

COVID-19 protocols are essential to ensure that our patients can receive vital dental healthcare in a safe and caring environment.

General principles:

1. Avoid aerosol generating procedures (AGP) whenever practicable. When unavoidable the duration is reduced as much as is practicable.
2. AGPs can be created by the high speed drill, ultrasonic scalers, the 3-in-1 or patient behaviour (coughing and sneezing)
3. Employ methods to reduce the effect of AGPs by using high volume suction, four handed dentistry and rubber dam wherever practicable.
4. Use recommended PPE and the described procedures

Procedures that may result in aerosols:

1. 3-in-1 unit
2. High speed drill (air rotor)
3. Electric handpieces with irrigation
4. Surgical/implant drills with irrigation
5. Ultrasonic handpieces
6. Rotary instruments used outside the mouth on contaminated surfaces (e.g. lost crowns)
7. Air abrasion
8. Polishing after a hygienist scale
9. Rinsing or spitting into a spittoon
10. Any procedure that may induce coughing/gagging

In the event of an aerosol generating exposure (AGE) or an aerosol generating procedure (AGP) a full risk assessment is carried out ([APPENDIX XVI](#)). Treatment is performed according to the Overall Risk Assessment ([APPENDIX XVI](#)) using the following protocols to protect patients and staff:

### 1. WATER SUPPLY

Suitable disinfectant solution is added to the closed system water supply used in the surgery. Bacterial testing is carried out on all water lines prior to the practice reopening, owing to stagnation during the weeks of closure.

### 2. RUBBER DAM

Rubber dam is used for every patient unless it is not practicable.



## Cavendish House Dental Care

### 3. PPE

Clinical staff will wear the following PPE:

- Full arm fluid repellent gown, over scrubs
- Face shield/full face visor
- FFP2 or P3 mask/respirator
- Gloves
- Disposable head cover (High Risk)
- Disposable shoe covers (High Risk)

### 4. AIR PURIFICATION

Air purification systems have been proven to effectively remove pathogens in the air, and ensure that airborne, droplet viruses, such as COVID-19 are neutralised before they are inhaled. This established technology is used widely in hospitals and clinics worldwide, and the typical time to completely change the air in a room is 5 minutes (40m<sup>3</sup>).

Each surgery will have a IQAir HealthPro 250 Air Purifier installed. This machine requires 5 minutes to clean the air. If the Air Purifier is not functioning the room must be left with the windows open for 30 minutes.

### 5. HIGH VOLUME ASPIRATION

High volume aspiration (HVA) will be used for all AGPs. This allows 99.9% of all potentially hazardous materials to be safely removed.

Spitting must be minimised and allowed only if necessary. All staff must stand well away from a patient who is spitting (at least 2m).

### 6. CLEANING THE SURGERY & EXIT PROTOCOL

After each AGP patient, cleaning down of surfaces and flooring is carried out with the use of a disinfectant followed by a viricidal solution in accordance with the Overall Risk Assessment ([APPENDIX XVI](#))

Only contactless or card payments will be accepted.

Patients will exit through a separate exit door, on the opposite side of the practice.



Cavendish House Dental Care

## APPENDIX I

# CATEGORIES OF PATIENTS AND VULNERABLE GROUPS

COVID-19 STANDARD OPERATING PROTOCOLS

### **CATEGORY 1 PATIENTS ARE THOSE:**

1. With a confirmed case of COVID-19
2. Living in the same household as somebody with COVID-19 symptoms/confirmed diagnosis of COVID-19
3. Having COVID-19 symptoms

### **CATEGORY 2 PATIENTS (VULNERABLE GROUPS) ARE:**

HIGH risk-

- have had an organ transplant
- are having chemotherapy or antibody treatment for cancer, including immunotherapy
- are having an intense course of radiotherapy (radical radiotherapy) for lung cancer
- are having targeted cancer treatments that can affect the immune system (such as protein kinase inhibitors or PARP inhibitors)
- have blood or bone marrow cancer (such as leukaemia, lymphoma or myeloma)
- have had a bone marrow or stem cell transplant in the past 6 months, or are still taking immunosuppressant medicine
- have been told by a doctor they you have a severe lung condition (such as cystic fibrosis, severe asthma or severe COPD)
- have a condition that means they have a very high risk of getting infections (such as SCID or sickle cell)



## Cavendish House Dental Care

- are taking medicine that makes them much more likely to get infections (such as high doses of steroids)
- have a serious heart condition and are pregnant

### MODERATE risk-

- are 70 or older
- are pregnant
- have a lung condition that's not severe (such as asthma, COPD, emphysema or bronchitis)
- have heart disease (such as heart failure)
- have diabetes
- have chronic kidney disease
- have liver disease (such as hepatitis)
- have a condition affecting the brain or nerves (such as Parkinson's disease, motor neurone disease, multiple sclerosis or cerebral palsy)
- have a condition that means they have a high risk of getting infections
- are taking medicine that can affect the immune system (such as low doses of steroids)
- are very obese (a BMI of 40 or above)

### CATEGORY 3 PATIENTS ARE:

All patients under the age of 70 and who do not fall into either of the above categories



Cavendish House Dental Care

## APPENDIX II

# RISK ASSESSMENT OF STAFF

### COVID-19 STANDARD OPERATING PROTOCOLS

All team members will be risk assessed to ensure that they do not fall into vulnerable groups and have no COVID-19 symptoms

For ongoing guidance see the government information at:

<https://www.gov.uk/government/publications/covid-19-stay-at-home-guidance>



## APPENDIX III

# THE PRACTICE ENVIRONMENT

### COVID-19 STANDARD OPERATING PROTOCOLS

1. A distance of 2m should be kept between patients wherever possible
2. Appropriate signage will advise patient of the 2m distance rule
3. A distance of 2m should be kept between staff members wherever possible
4. Staff training will be given on these SOPs prior to staff starting clinical work
5. A distance of 2m should be kept between patients and staff wherever possible
6. Waiting areas are clearly demarked to ensure the 2m separation between patients
7. The waiting area can take 7 patients with full 2m distancing
8. Patients are asked not to bring anybody else into the practice unless essential to be accompanied
9. Patient numbers are to be limited to 12 inside the practice at any one time (5 in the surgeries and 7 in the waiting areas)
10. All patient magazines must be removed
11. All wall art must be removed from surgeries
12. No pens are to be shared with patients or amongst staff
13. Medical history forms are completed by patients online before their appointments. If not done, the medical history is taken by the dentist orally from the patient in the surgery
14. COVID-19 information posters are to be clearly displayed in all areas of the practice
15. The water dispenser must be removed
16. Frequently used hand touch areas and common areas such as the waiting area and reception are to be disinfected at least twice a day.
17. All door handles must be disinfected when a colleague or patient enters/exits the surgery
18. All exit and entrance doors must be kept open if practicable (depending on weather conditions etc)
19. Air purification units are to be installed
20. PPE donning must take place either in the DR or the downstairs holding room (separate to treatment areas)
21. The appointment book must be managed into AGP or non AGP sessions
22. Home clothes are never to be worn in the surgery (immediately change upon entering the building)
23. Break times and rotas are to be organised to ensure that the 2m distance rule can apply at lunch and other rest times

Patient use hand sanitiser stations have been installed upstairs and downstairs in the patient areas



## APPENDIX IV

# TRIAGE & SCREENING OF PATIENTS

### COVID-19 STANDARD OPERATING PROTOCOLS

Before an appointment is offered all patients are triaged either by telephone and/or video call

1. The patient is risked assessed regarding COVID-19 symptoms
2. The patient is risk assessed regarding Vulnerable Groups
3. Patients in Category 1 will not be seen in the practice. These patients may be referred to the local Urgent Dental Centre (UDC)
4. Email addresses must be confirmed. The practice will aim to be paperless regarding estimates, receipts and consent.
5. Patients are not to arrive too early and to wait in their car (or outside the practice if the patient has travelled by other means)
6. The new Patient Journey will be explained to the patient. This will be followed by an email to the patient clarifying the new Patient Journey
7. Payment must be contactless (credit/debit card, contactless card or Apple Pay) where possible.
8. Patients are asked to use their toilet before leaving home to reduce the number of people using the practice toilet
9. To ask the patient not to bring any belongings with them (with the exception of handbags etc) into the surgery if possible

#### Pre-attendance COVID-19 risk assessment

1. The patient is called 24 hours before appointment to confirm attendance and to confirm any changes in their medical history.
2. Patient is asked whether they have experienced any of the symptoms of Covid-19. These are:
  - a. A high temperature.
  - b. Persistent cough, this means coughing for more than an hour, or 3 or more coughing episodes in 24 hours.
  - c. A loss or change to their taste or sense of smell
3. Patients asked whether they have been in contact with any persons who have been unwell with or have exhibited the symptoms of COVID-19

If any of these symptoms are noted, the appointment should be deferred.



## Cavendish House Dental Care

The patient will need isolation for a minimum of 7 days.

If the patient develops any of these symptoms between the screening call and the appointment they should be told to contact the surgery and postpone the appointment.

**CATEGORY 2 (VULNERABLE) PATIENTS MUST BE TREATED AT THE BEGINNING OF THE DAY WHENEVER POSSIBLE AND SHOULD BE KEPT AWAY FROM STAFF MEMBERS AND OTHER PATIENTS AS MUCH AS IS PRACTICABLE**

At least 24 hours before their appointment every patient is contacted to:

1. Ask for any changes in their COVID-19 risk status
2. Advise the patient that if they think that their risk status changes between this pre-appointment screening and the appointment to contact us before entering the practice



Cavendish House Dental Care

## APPENDIX V

# PATIENT ATTENDANCE PROTOCOL

### COVID-19 STANDARD OPERATING PROTOCOLS

1. The patient must wait in their car until sent a SMS text message or called by reception to tell them that the practice is ready for them. This will help to reduce the number of patients in the practice at any one time. If a patient has not travelled by car they will be asked to wait outside of the premises.
2. Patients are asked not to bring anything but essential belongings (handbag etc)
3. Patients are asked to use the wall mounted hand sanitiser when entering the practice
4. Patients are asked to comply with the 2m social distancing protocol
5. Reception staff will sit behind the acrylic protective screens
6. Facemasks will be available for patient use, depending on the availability of PPE for clinical use
7. Reception will repeat the COVID-19 risk assessment questions
8. If the patient needs to wait they will be directed to a specific seat to ensure distancing (2m)
9. If the patient can be escorted directly to the surgery this is preferable to requiring them to wait
10. Should there be a risk that the patient may need to use the toilet during an AGP they will be asked to use the patient toilet before treatment commences. The door handle and flushing lever must be disinfected after use.



## APPENDIX VI

# SURGERY PREPARATION BEFORE AN AEROSOL GENERATING PROCEDURE

### COVID-19 STANDARD OPERATING PROTOCOLS

1. All treatment must be well planned beforehand
2. All open shelving has been removed
3. All work surfaces must be clutter-free
4. Only essential items must be allowed on a work surface (instruments for the procedure and computer equipment)
5. Keyboards and computer mice are all waterproof. These must be disinfected after each procedure
6. Computer monitors must be disinfected after every procedure
7. All patient leaflets and pictures must be kept in closed cupboards
8. Wall art must be removed from all surgeries
9. Draws should not be opened during a procedure due to the 'whoosh effect'
10. All items in drawers must be kept either in lidded containers or in sealed pouches
11. No additional person must enter the AGP room unless fully donned in the appropriate enhanced PPE
12. PPE should be doffed (with exception of the FFP2/3 mask) before any staff member leaves the surgery
13. FFP2/3 masks are doffed outside of the room in which an AGP was carried out



Cavendish House Dental Care

## APPENDIX VII

# PPE REQUIREMENTS

### COVID-19 STANDARD OPERATING PROTOCOLS

NON AGP TREATMENT (including runners and decontamination room)

- Scrubs
- Disposable plastic apron (changed after each patient)
- Disposable gloves (changed after each patient)
- 3-ply surgical mask (FRSM) (changed after each patient)
- Full face visor or glasses (disposed of if single use or disinfected if multiple use in-between each patient)

AGP TREATMENT (Enhanced PPE) – depending on Overall Risk ([APPENDIX XVI](#))

- Scrubs
- Disposable shoe covers (High Risk)
- Disposable fluid resistant gown (changed after each patient)
- Disposable head covering (High Risk)
- Disposable gloves (changed after each patient)
- FFP2/3 mask (changed after each patient) or half face reusable P3 mask (disinfected after each patient)
- Full face visor (disposed of if single use or disinfected if multiple use in-between each patient)

ALL PPE MUST BE DISPOSED OF IN THE CLINICAL WASTE



Cavendish House Dental Care

## APPENDIX VIII

# AIR PURIFICATION

### COVID-19 STANDARD OPERATING PROTOCOLS

Each surgery will have the following Air Purifiers installed. If the Air Purifier is not functioning, the windows of the surgery must be left open and the room left for 30 minutes.

If Air Purifiers are functioning, they can clean the room in 10-15 minutes (depending on room size and Overall Risk Assessment of the AGP/AGE).

#### IQAir HealthPro 250 Air Purifier

- World's No. 1 Rated Air Purifier
- Certified Performance
- Hospital-grade COVID-19 filtration
- 100% Ozone Free
- Advanced Gas and Odour Removal
- Extra-Long Filter Life
- Intelligent Filter Life Monitor
- Low Energy Consumption
- Swiss Made



Air quality is tested with the IQAir electronic measuring device:





Cavendish House Dental Care

## APPENDIX IX

# STAFF TRAINING

### COVID-19 STANDARD OPERATING PROTOCOLS

Before returning to patient care all staff must undergo formal training. The training will be logged for each staff member. The training requirement is mandatory.

Training will be provided on:

1. The COVID-19 virus: aetiology, virulence and pathogenicity
2. Placement of the FFP2/3 masks (all staff must be face fit tested)
3. Donning and doffing PPE
4. The COVID-19 SOPs
5. Decontamination procedures
6. The new Patient Journey
7. New AGP procedures
8. COVID-19 risk assessments
9. Use of the Air Purification system
10. Home and work clothing management
11. Impact of COVID-19 on CPR and AED procedures
12. Appointment management
13. Social distancing for patient and staff
14. Staff risk assessment and risk management



Cavendish House Dental Care

## APPENDIX X

# Face Fit Testing

### COVID-19 STANDARD OPERATING PROTOCOLS

All clinical staff must have Face Fit Testing carried out before being able to use any FFP2/3 mask or any half face P3 respirator. This is a legal requirement under COSHH.

All staff must be retested if there is a change in the manufacturer or mask type.

Face Fit Testing must be undertaken with any glasses/loupes that would normally be worn by the staff member

If a staff member does not pass a Face Fit Test, alternative FFP2/3 or P3 respirators will be sourced.

If a staff member fails the Face Fit Test for all available masks that staff member must not take part in any AGPs.

Face Fit Testing must be conducted by a trained and certified tester.



## APPENDIX XI

# Donning and Doffing

### COVID-19 STANDARD OPERATING PROTOCOLS

Prior to donning PPE, the following should be carried out:

1. Consider needing a comfort break
2. Ensure hydration is long session ahead
3. Hair should be tidy and tied back
4. Jewellery should be removed
5. Ensure hand hygiene has been carried out
6. Gather necessary PPE
7. Plan where to put on and take off the PPE
8. Have a colleague help if required or use a mirror if available.

]

DONNING PPE FOR A NON-AGP: - Putting on PPE

1. Hand hygiene
2. Apron
3. FRSM (adapt to bridge of nose)
4. Eye protection/visor
5. Gloves

DOFFING PPE FOR A NON-AGP: - Taking off PPE

1. Gloves – remove gloves grasping the outside of the glove with the opposite glove. Peel off and hold removed glove in the remaining gloved hand. Slide the fingers of the un-gloved hand under the remaining glove at the wrist and peel off. Dispose in clinical waste.
2. Perform hand hygiene with ABHR.
3. Eye protection – remove eye protection, pull away from face using both hands. Decontaminate if reusable using warm soapy water.
4. Apron – untie or break apron ties at neck and let apron fold down on itself, break ties at waist and fold in on itself. Do not touch outside of the apron., Dispose in clinical wastes and perform hand hygiene with ABHR.
5. FRSM – remove facemask, break ties, bottom and then top, and remove by handling ties only. Lean forwards, dispose of in clinical waste.
6. Clean hand and forearms.



## Cavendish House Dental Care

### DONNING PPE FOR AN AGP: - Putting on PPE

Donning for an AGP should be done in a different room to the AGP room.

#### Procedure:

1. Put on shoe covers
2. Put on gown
3. Put on FFP2 or FFP3 and perform fit check on oneself
4. Put on hat
5. Put on loupes/prescription glasses.
6. Put on visor if not already connected to loupes if used
7. Put on gloves
8. Put on gloves (over cuff of the gown)

### DOFFING PPE FOR AN AGP: - Taking off PPE

#### Procedure.

1. Removed gloves as above and dispose of in clinical waste.
2. Perform hand hygiene with ABHR.
3. Remove shoe coverings and dispose of in clinical waste.
4. Perform hand hygiene with ABHR.
5. Remove visor, if separate, tilting head forwards as visor may have contaminants on it.
6. Place visor in container for decontamination.
7. Remove gown – peel off and roll inside out and dispose of in clinical waste
8. Remove cap and dispose of in clinical waste.
9. Perform hand hygiene with ABHR.
10. Remove loupes
11. Perform hand hygiene with ABHR or soap and water.
12. Leave the surgery.
13. Remove FFP2/3 mask from behind and dispose of in clinical waste.
14. Perform hand hygiene with ABHR or soap and water.



Cavendish House Dental Care

## APPENDIX XII

# Disinfection Procedure post non-AGP

### COVID-19 STANDARD OPERATING PROTOCOLS

#### Disinfection Procedure post non-AGP

1. Windows kept open where possible to help ventilation when using detergents and disinfection products.
2. Air-condition should be kept on if required.
3. Disposable items that have been used must be bagged as clinical waste.
4. Usual HTM 01-05 and practice procedures should be followed with standard cross infection control and boxing of dirty instruments.
5. Visors and headbands to be removed and cleaned/wiped with warm soapy water.
6. Doffing of PPE in surgery.
7. Transport dirty box to decontamination/sterilisation room.



## APPENDIX XIII

# Disinfection Procedure post AGP

### COVID-19 STANDARD OPERATING PROTOCOLS

#### Disinfection Procedure post AGP

The DCP/staff member should carry out the following disinfection process after an AGP. PPE to be left on.

1. Windows kept open where possible to help ventilation when using detergents and disinfection products.
2. Air-condition should be kept on if required.
3. Disposable items that have been used must be bagged as clinical waste.
4. Usual HTM 01-05 and practice procedures should be followed with standard cross infection control and boxing of dirty instruments.
5. Visors and headbands to be removed and cleaned/wiped with warm soapy water.
6. Disinfection of water and suction lines, flush through handpieces, 3 in 1 line with appropriate disinfection solution.
7. The disinfection process will involve the staff member first cleaning/wiping the surfaces and floor listed below with a detergent (such as washing up liquid or Flash floor cleaner diluted in warm soapy water) and then repeating the process with virucidal agents.
8. Using disposable cloths or paper rolls/reuseable mop heads the staff member should clean and disinfect the following. .
  - a. Clean all reusable equipment and surfaces.
  - b. Chair light.
  - c. Chair, both top and base.
  - d. Foot pedals.
  - e. Stools.
  - f. Outside of any material containers used during the procedure.
  - g. When cleaning surfaces work systematically from top or furthest away point.
  - h. Wall cabinets, then work surfaces, then base cabinets.
  - i. Handles on units/cabinets.
  - j. Wall mounted x-ray equipment.
  - k. Sharps bins.
  - l. Computers
  - m. Taps
  - n. Hand basins
  - o. Paper towel dispenser.
  - p. ABHR dispenser and soap dispenser.



## Cavendish House Dental Care

- q. Door handle.
  - r. Light switches.
  - s. Other non-disposable items.
  - t. Outside of door handle.
  - u. Floor.
9. Dispose of disposable cloths used as clinical waste.
  10. Discard detergent/disinfection solutions safely at disposal point.
  11. Air purification cycle should be used or if not available, surgery fallow time of that determined in the pre-treatment risk assessment to be allowed. Windows to be closed for air purification with filter set to maximum. Windows open if no air purification.
  12. Remove PPE as in Doffing protocol above. Mask to be left on at this stage.
  13. Perform hand hygiene using ABHR.
  14. Transport dirty box to decontamination/sterilisation room.
  15. FFP2/2 mask to be left on until staff member has left the room.
  16. Perform hand hygiene using ABHR.
  17. After air purification:
    - a. The dental team member should return and has donner cleaning PPE (Standard PPE)
      - i. Gloves
      - ii. FRSM mask
      - iii. Disposable apron
    - b. Dispose of PPE.

### Agents to use for disinfection

The disinfection of surfaces and objects shall be performed using a detergent (such as washing up liquid or Flash floor cleaner diluted in warm soapy water) and then repeating the process with virucidal agents such as Cidalkan wipes or spray or Jangro Virucidal Cleaner made at the 1:10 dilution.

The disinfection of floors shall be performed using a detergent (such as washing up liquid or Flash floor cleaner diluted in warm soapy water) and then repeating the process with virucidal agents Jangro Virucidal Cleaner made at the 1:10 dilution.

Cleaning should, be carried out with disposable towels, cloths, or paper pads and the virucidal agents left on the surface to dry for 5 minutes or as per manufacturer's instructions. These agents should not be washed off.



## APPENDIX XIV

### Workwear policy

#### COVID-19 STANDARD OPERATING PROTOCOLS

Daily clothing protocol:

Getting to work:

1. Ideally wear clean clothes
2. Pack two pillowcases and use a washable bag like a rucksack

At work:

1. Change into workwear
2. Put your home clothes into one pillowcase
3. Use PPE as needed in above protocols

At break times:

1. No food should be consumed whilst wearing work cloths
2. Change into home clothes to eat
3. You will need a new set of clinical clothes for a second session

Leaving work:

1. Put your work clothes in the other pillowcase
2. Change into your home clothes

Arriving home:

1. Clean you care where your hands came into contact with it
2. Enter you home with minimal contact with the premises
3. Wipe down door with hand sanitiser
4. Place the pillowcase with all work clothes into the washing machine and wash on a 60°C wash. Do not



Cavendish House Dental Care

## APPENDIX XV

# Legionella Disease Prevention

### COVID-19 STANDARD OPERATING PROTOCOLS

Because our building was closed during the coronavirus (COVID-19) outbreak, water system stagnation can occur due to lack of use, increasing the risks of Legionnaires' disease.

In order to minimise the risk the following procedures are carried out, and recorded:

1. Hot and cold water outlets are use fully flushed to prevent water stagnation
2. Prior to commencement of patient care all surgery water systems (DUWLs) are tested with Red Samplers
3. If any DUWL fails the Red Sampler test, the entire system will be disinfected with Alpron



## APPENDIX XVI

# Risk Assessments

### COVID-19 STANDARD OPERATING PROTOCOLS

All patients will be subjected to a thorough personalised Risk Assessment, based on the principles of the stratified risk management processes illustrated in the FGDP(UK) guidance, 'Implications of COVID-19 for the safe management of general dental practice: A practical guide'.

The risk assessments are recorded in the clinical records by the treating practitioner.

The risk assessments will include:

1. The current national COVID-19 Alert level (1-5)
2. The patient's risk of developing more serious complications from COVID-19 (low/medium/high)
3. The AGE/AGP risk of the procedure (low/medium/high)

### Patient Risk Assessment

The personalised risk assessment of the patient will consider the following matters:

- COVID-19 screening
- Age of the patient (higher risk if >70)
- Sex of the patient (males are higher risk than females)
- Health of the patient (see [APPENDIX I](#))
- Ethnicity of the patient (BAME group is a higher risk)
- Whether or not the patient is/maybe pregnant

### Procedure AGE/AGP Risk Assessment

The AGE/AGP risk assessment of the dental procedure will consider the following matters:

- Length of time of the AGP activities (longer is higher risk)
- Nature of the AGP (e.g. high-speed handpiece higher risk than slow speed)



## Cavendish House Dental Care

- Mitigating factors (use of rubber dam, high volume aspiration etc)
- PPE worn by clinicians

### Overall Risk Assessment

After consideration of the above factors the clinician will determine, and record, the overall risk assessment for the procedure (low/medium/high).

The following protocols will be employed, depending on the overall risk level: -

#### HIGH RISK

- Enhanced PPE (FFP2/3 mask, gown, full face visor with hair & shoe covers)
- 60 minute fallow time (reduced to 15 minutes if COVID-19 air purifiers are employed)
- Floor mop with detergent and viricidal agent at the end of the procedure
- Surfaces and keyboard/mouse disinfected with detergent and viricidal agent

#### MEDIUM RISK

- Enhanced PPE (FFP2/3 mask, gown, full face visor +/- hair & shoe covers)
- 30 minute fallow time (reduced to 10 minutes if COVID-19 air purifiers are employed)
- Floor mop with detergent and viricidal agent at the end of the procedure
- Surfaces and keyboard/mouse disinfected with detergent and viricidal agent

#### LOW RISK

- Standard PPE (FRSM mask, apron if necessary, glasses or full-face visor)
- No fallow time required
- Floor mop with detergent and viricidal agent at the end of each session
- Surfaces and keyboard/mouse disinfected with normal HTM-0105 procedures and materials



## APPENDIX XVI I

# EVIDENCE BASE FOR PROTOCOLS

### COVID-19 STANDARD OPERATING PROTOCOLS EVIDENCE BASE

#### **FFP2/3 and Half Face P3 Masks**

The use of standard masks, FFP2 (N95) masks or FFP3 (N99) masks and their relative effectiveness has been widely debated. Current SOP from NHSE advise the use of FFP3 (N99) masks in all Urgent Dental Care Centres. However for standard, non-aerosol generating procedures, standard 3-ply surgical masks have been shown to be as effective as respirator masks.<sup>(1)</sup> Furthermore, for non-AGPs, there is no evidence that respirator masks add value over standard masks when both are used with recommended wider PPE measures.<sup>(2)</sup> In combination with the other measures in these protocols, there is also little benefit or additional protection (0.4%) of FFP3 over FFP2.<sup>(15)</sup> It makes practical sense based on this evidence to use standard 3-ply surgical masks for non-AGP, and if the other protocols are employed, face fit tested FFP2/3 masks or half face P3 respirators for AGP procedures.

#### **Pre-Screening**

The novel coronavirus can be passed from person to person through respiratory droplets. This is significant as symptom-free patients may in theory facilitate transmission in the dental environment. We intend to avoid a Covid-19 positive patient entering the building through pre-arrival telephone questionnaire screening and/or video consultations, and on patient arrival a temperature check is undertaken with a non-contact device.(requirement is <37.3 Celcius).<sup>(3,4)</sup>

#### **Antimicrobial Rinse**

Pre-procedural mouthwashes have historically been shown to be effective in the reduction of aerosol contamination from aerosol generating procedures.<sup>(5)</sup> As the novel coronavirus is vulnerable to oxidation, a pre-clinical environment mouthwash of Hydrogen Peroxide (HP) can effectively inactivate the virus.<sup>(6)</sup> If the patient uses a (1.5%-3%) HP mouthwash on first entering the practice, this also reduces potential spread and transmission outside of the clinical area.<sup>(7)</sup>



## Cavendish House Dental Care

### **Water Supply Cleaning**

The SARS-Cov-2 virus has been shown to remain active and infectious in sewage and waterlines.<sup>(8)</sup> Hypochlorous Acid based disinfectant has been shown to eliminate biofilms and disinfect the waterlines.<sup>(9, 10)</sup>

### **Rubber Dam**

The airway, salivary glands and tongue are potential sites for the Covid-19 virus due to the expression of ACE2 proteins in their cell linings to which the virus binds.<sup>(11)</sup> Rubber dams and high volume suction devices significantly minimise the production of saliva aerosol where high speed hand-pieces and ultrasonic scalers are used.<sup>(12)</sup>

### **Visors and Eye Protection**

Exhaled aerosol size depends on the characteristics of the fluid, the force and pressure at the moment of emission, environmental conditions and remain suspended in the air for varying amounts of time depending on the particle/droplet size.<sup>(13)</sup> As such, protective glasses and full face visors are advisable to prevent direct contact of particles and droplets from suspended infectious respiratory particles entering through the eyes.<sup>(14)</sup>

### **Gowns**

In all settings, when in close patient contact, scrubs with disposable apron should be used and when carrying out aerosol generating procedures, a long-sleeved fluid resistant gown.<sup>(16)</sup>

### **Air Purifiers**

Ventilation rates, ventilation strategies, air filtration and differential pressure control can contribute to the spread of airborne infectious diseases in hospitals.<sup>(17)</sup> The NHSE has recommended 30 minute intervals (with open windows) between patients at UDC centres based on the time taken for particle settling.<sup>(18)</sup> Air purifiers that employ a combination of HEPA filtration, active carbon filtration and UVC can reduce this time dependency on their air turnover ability and the size (volume) of the room.<sup>(19-21)</sup> Air purifiers measure their ability in volume cycles per hour and modern units can achieve a turnover rate of 10-20x times/hour. Wall mounted units or free-standing units positioned close to the patient's feet can optimise this outcome.<sup>(22-26)</sup>



## Cavendish House Dental Care

### High Volume Suction

The use of high-volume evacuation HVE/suction has been shown to reduce aerosol contamination coming from the operative site by 90%.<sup>(27)</sup>

### Cleaning Down of Surfaces and Floors

Surfaces should also be clear. Disinfectants based on hypochlorous acid or chlorine dioxide solutions are active against enveloped viruses, such as 2019-nCoV and other coronaviruses. After each AGP patient, cleaning down of surfaces and flooring with the use of hypochlorous acid or chlorine dioxide based disinfectant solutions should be carried out as per HTM0105 best practice standard.

### REFERENCES:

1. Greenhalgh, T et al. What is the efficacy of standard face masks compared to respirator masks in preventing COVID-type respiratory illnesses in primary care staff? <https://www.cebm.net/wp-content/uploads/2020/03/COVID-CAT-PPE-MASKS-9-REVISED-002.pdf>
2. Long Y, Hu T, Liu L, et al. Effectiveness of N95 respirators versus surgical masks against influenza: A systematic review and meta-analysis [published online ahead of print, 2020 Mar 13]. *J Evid Based Med*. 2020;10.1111/jebm.12381. doi:10.1111/jebm.12381
3. IDDA COVID-19 Research Based Information and Dental Treatment Protocol <https://documentcloud.adobe.com/link/track?uri=urn%3Aaaid%3Ascds%3AUS%3A2b5d1218-b5a7-482b-b32e-80afa5de5a36>
4. Peng, X et al. Transmission routes of 2019-nCoV and controls in dental practice *International Journal of Oral Science* (2020)12:9
5. Gupta G, Mitra D, Ashok KP, et al. Efficacy of preprocedural mouth rinsing in reducing aerosol contamination produced by ultrasonic scaler: a pilot study. *J Periodontol*. 2014;85(4):562-568. doi:10.1902/jop.2013.120616
6. Kampf G, Todt D, Pfaender S, Steinmann E. Persistence of coronaviruses on inanimate surfaces and their inactivation with biocidal agents. *J Hosp Infect*. 2020;104(3):246-251. doi:10.1016/j.jhin.2020.01.022
7. Xu, R., Cui, B., Duan, X. et al. Saliva: potential diagnostic value and transmission of 2019-nCoV. *Int J Oral Sci* 12, 11 (2020). <https://doi.org/10.1038/s41368-020-0080-z>



## Cavendish House Dental Care

8. Naddeo, V. Et al. 2019 novel coronavirus (SARS-CoV-2): what is its fate in urban water cycle and how can the water research community respond? *Environ. Sci.: Water Res. Technol.*, 2020,6, 1213-1216
9. Shajahan IF, Kandaswamy D, Lakshminarayanan L, Selvarajan R. Substantivity of hypochlorous acid-based disinfectant against biofilm formation in the dental unit waterlines. *Journal of Conservative Dentistry : JCD*. 2017 Jan-Feb;20(1):2-5. DOI: 10.4103/0972-0707.209076.
10. Wang J, Shen J, Ye D, et al. Disinfection technology of hospital wastes and wastewater: Suggestions for disinfection strategy during coronavirus Disease 2019 (COVID-19) pandemic in China. *Environ Pollut*. 2020;262:114665. doi:10.1016/j.envpol.2020.114665
11. Samaranayake, L. P., Reid, J. & Evans, D. The efficacy of rubber dam isolation in reducing atmospheric bacterial contamination. *ASDC J.Dent. Child* 56, 442–444 (1989).
12. Samaranayake, L. P. & Peiris, M. Severe acute respiratory syndrome and dentistry: a retrospective view. *J. Am. Dent. Assoc.* (1939) 135, 1292–1302 (2004).
13. Ferioli M, Cisternino C, Leo V, Pisani L, Palange P, Nava S. Protecting healthcare workers from SARS-CoV-2 infection: practical indications. *Eur Respir Rev*. 2020;29(155):200068. Published 2020 Apr 3. doi:10.1183/16000617.0068-2020.
14. World Health Organization. Infection prevention and control of epidemic and pandemic-prone acute respiratory infections in health care Geneva, WHO, 2014.
15. Howe MS. How much extra protection does an FFP3 mask offer in the dental surgery? post 30.4.2020. Accessed 19 May 2020.
16. BME, COVID-19: PPE for doctors. <https://www.bma.org.uk/advice-and-support/covid-19/ppe/covid-19-ppe-for-doctors>
17. Shajahan A, Culp CH, Williamson B. Effects of indoor environmental parameters related to building heating, ventilation, and air conditioning systems on patients' medical outcomes: A review of scientific research on hospital buildings. *Indoor Air*. 2019;29(2):161-176. doi:10.1111/ina.12531
18. Hinds WC., 1982, "Aerosol technology: Properties, behaviour, and measurement of airborne particles". New York: Wiley; 1982:6-8.
19. Chen C et al, 2010, "The effectiveness of an air cleaner in controlling droplet/aerosol particle dispersion emitted from a patient's mouth in the indoor environment of dental clinics". *J R Soc Interface*. 2010 Jul 6; 7(48): 1105–1118
20. Hallier C, et al. 2010, "A pilot study of bioaerosol reduction using an air cleaning system during dental procedures". *Brit Dent J*. 2010 Oct 23;209(8):E14.
21. Darnell, M. Et al. Inactivation of the coronavirus that induces severe acute respiratory syndrome, SARS-CoV. *Elselvier*, 3 August 2004
22. Yadav, N. Et al Role of High-Efficiency Particulate Arrestor Filters in Control of Airborne Infections in Dental Clinics. *Journal of Research in Dental Sciences* 2015
23. Chen, C et al. The Effectiveness of an Air Cleaner in Controlling Droplet/Aerosol Particle Dispersion Emitted from a Patient's Mouth in the Indoor Environment of Dental Clinics. Department of Periodontology, Peking University, Beijing 2009



## Cavendish House Dental Care

24. James, R. Et al. Dental Aerosols: A Silent Hazard in Dentistry International Journal of Science and Research 2016
25. Vanderbroucke-Grauls CM, Teeuw KB, Ballemans K, Lavooij C, Cornelisse PB, Verhoef J. Bacterial and viral removal efficiency, heat and moisture exchange properties of four filtration devices. J Hosp Infect. 1995;29(1):45-56. doi:10.1016/0195-6701(95)90292-9
26. Morowska L et al Airborne transmission of SARS-CoV-2: The world should face the reality Environment International Volume 139, June 2020, 105730 <https://doi.org/10.1016/j.envint.2020.105730>
27. Harrel SK, 2004, "Aerosols and splatter in dentistry: a brief review of the literature and infection control implications" Apr;135(4):429-37. .